

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 27



**UNITED STATES PATENT AND TRADEMARK OFFICE**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**



Ex parte SCOTT E. JOHNSTON

Appeal No. 2004-0533  
Application No. 09/312,992

ON BRIEF

Before STAAB, McQUADE, and NASE, Administrative Patent Judges.  
NASE, Administrative Patent Judge.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 1 to 9, which are all of the claims pending in this application.

We AFFIRM.

### **BACKGROUND**

The appellant's invention relates to spirally formed pipe and more particularly to larger sizes than have been produced in the past (specification, p. 1). Claims 1, 5 and 9 are representative of the subject matter on appeal and read as follows:

1. A spirally formed pipe, comprising an elongated strip of ductile material formed into joined, adjacent helical convolutions, having a diameter larger than 15 feet.
5. A spirally formed pipe, comprising an elongated strip of ductile material formed into joined, adjacent helical convolutions, reshaped into an arch shape, having a beginning diameter above 144 inches.
9. A spirally formed pipe larger than 144 inches in diameter before reshaping into an arch shape.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Reed	2,751,672	June 26, 1956
McDonald	3,380,147	April 30, 1968
McFatter	4,121,747	Oct. 24, 1978
Steuber	4,142,284	March 6, 1979

"Handbook of Steel Drainage & Highway Construction Products," American Iron and Steel Institute, 1983, pp. 6-65 (Handbook)

"PRD CORTEC™ Housing Manufacturing System," PRD Company, 1994 (PRD<sup>1</sup>)

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<sup>1</sup> Both the examiner and the appellant have used Cortec™ to refer to this reference. We prefer to use PRD which is not trademarked.

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Reed.

Claims 1, 2 and 4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by McDonald.

Claims 1, 2 and 4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Steuber.

Claim 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over either Reed, McDonald or Steuber in view of Handbook.

Claims 1, 2 and 4 stand rejected under 35 U.S.C. § 103 as being unpatentable over PRD in view of McFatter.

Claims 5 to 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over PRD in view of Handbook.

Claims 5 to 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Handbook in view of PRD.

Claims 1 to 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Handbook in view of McFatter.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (Paper No. 23, mailed July 1, 2003) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 22, filed April 22, 2003) and reply brief (Paper No. 24, filed August 4, 2003) for the appellant's arguments thereagainst.

#### OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

Our first task in this appeal is to determine the scope (i.e., the mates and bounds) of the claimed subject matter. In particular, it is clear from the briefs and the answer that the appellant and the examiner disagree as to the scope of the word "pipe" as used in independent claims 1, 5 and 9. Accordingly, we must define the word "pipe."

The United States Patent and Trademark Office (USPTO) applies to the verbiage of the claims before it the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the appellant's specification. In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). See also In re Sneed, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983).

On page 13 of the answer, the examiner provides two definitions of pipe from Webster's 10<sup>th</sup> Edition Collegiate Dictionary. The first definition of pipe was "a long tube or hollow body for conducting a liquid, gas, or finely divided solid or for structural purposes." The second definition of pipe was "a tubular or cylindrical object, part or passage."

The first paragraph of the detailed description of the invention section of the appellant's specification (pages 2-3) provides:

Referring now in detail to the drawings, the present invention large diameter spirally formed pipe has many uses as clearly shown in FIG. 1. A large diameter spirally formed pipe is reshaped into an arch shape and used as a highway overpass 52. A roadway 74 is paved through the lower portion of 52 while the cross street 82 is paved over the earth filled area above 52. A large diameter spirally formed pipe is reshaped into an arch shape and used as a barn or storage building 37, while the openings at either end are enclosed 38 with walls, doors and utility openings as needed. A large diameter spirally formed pipe is

reshaped into an arch shape and used as a home 45, while the openings at either end are enclosed 46 with walls, doors, windows, and patios as needed. Both the home 45 and barn 37 may be used above ground, or could be installed below ground as overpass 52 illustrates. Large diameter spirally formed pipe may be placed vertically and used as a grain silo 32, with formed panels 34 to enclose the top and as a water storage tank 61, with formed panels 62 to enclose the top. These are several different embodiments of uses for large diameter spirally formed pipes as can be employed with the present invention and are merely illustrative of the various uses. Traditional uses such as highway storm drain 21 and pile pipe or shell 67 are well known uses for spirally formed pipe, while overpasses 52, storage buildings 37, homes 45, silos 32 and water tanks 61 being larger in diameter, have generally been produced from formed metal panels with bolted or welded construction.

In our view, the broadest reasonable meaning of the word "pipe" in its ordinary usage as it would be understood by one of ordinary skill in the art, taking into account the enlightenment afforded by the written description contained in the appellant's specification is "a tubular or cylindrical object, part or passage." In making this determination we note (1) that this definition is broader than the other definition (i.e., "a long tube or hollow body for conducting a liquid, gas, or finely divided solid or for structural purposes") and (2) that this definition is consistent with the appellant's specification that large diameter spirally formed pipe may be placed vertically and used as a grain silo or as a water storage tank whereas the other definition would not be consistent with the appellant's specification.

With this definition of pipe, we now turn to the rejections under appeal.

**The anticipation rejection based on Reed**

We sustain the rejection of claims 1 and 2 under 35 U.S.C. § 102(b) as being anticipated by Reed.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir.), cert. denied, 484 U.S. 827 (1987). The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and what subject matter is described by the reference. As set forth by the court in Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984), it is only necessary for the claims to "read on" something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it."

Reed's invention relates to storage vessels, and more particularly to a method and apparatus for erecting a helically wound silo from a series of suitable sheets of material. The silo 1, as shown in the drawings, comprises a generally cylindrical, body portion which is enclosed at the top by a roof member 2 and supported beneath grade level by an annular footing 3. The body portion of silo 1 is formed of a number of metal

sheets 4 which are wound in a series of helical convolutions. The trailing end of each sheet 4 is bolted to the leading end of the following sheet and the lower edge portion of each convolution is similarly secured by bolts to the upper edge portion of the following convolution to provide the integral body portion of the silo. Reed teaches (column 6, lines 50-60) that the silo is composed of four sheets 4 and that a silo having a diameter of about 20 feet is contemplated.

In our view, claim 1 is readable on Reed as follows: A spirally formed pipe (Reed's helically wound silo formed by four helically wound metal sheets 4), comprising an elongated strip of ductile material formed into joined, adjacent helical convolutions (Reed's helically wound metal sheets 4), having a diameter larger than 15 feet (Reed's helically wound silo has a diameter of about 20 feet).

The appellant argues that claim 1 is not anticipated since Reed's silo is not a spirally formed pipe. We do not agree. As set forth above, the broadest reasonable meaning of the word "pipe" in its ordinary usage as it would be understood by one of ordinary skill in the art, taking into account the enlightenment afforded by the written description contained in the appellant's specification is "a tubular or cylindrical object, part or passage." Since Reed's helically wound silo is a tubular or cylindrical object,



part or passage, we find that the claimed spirally formed pipe is readable on Reed's helically wound silo formed by four helically wound metal sheets 4.

For the reasons set forth above claim 1 is anticipated by Reed. Accordingly, the decision of the examiner to reject claim 1 under 35 U.S.C. § 102(b) as being anticipated by Reed is affirmed.

Claim 2 which depends from claim 1 has not been separately argued by appellant as required in 37 CFR § 1.192(c)(7) and (8)(iv). Accordingly, we have determined that this claim must be treated as falling with independent claim 1. See In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987). Thus, it follows that the decision of the examiner to reject claim 2 under 35 U.S.C. § 102(b) as being anticipated by Reed is also affirmed.

**The anticipation rejection based on McDonald**

We sustain the rejection of claims 1, 2 and 4 under 35 U.S.C. § 102(b) as being anticipated by McDonald.

McDonald's invention relates to building structures and more particularly to silos used for the storage of corn and grains, and to the method of manufacturing silos.

Figure 1 is a projected view of a spirally wound silo 10. The silo structure is fabricated by spirally winding a strip of sheet steel 62 into a tubular shape. In the example shown, a silo having an outer circumference of sixty-six feet<sup>2</sup> is constructed.

In our view, claim 1 is readable on McDonald as follows: A spirally formed pipe (McDonald's spirally wound silo 10 formed by spirally winding a strip of sheet steel 62 into a tubular shape), comprising an elongated strip of ductile material formed into joined, adjacent helical convolutions (McDonald's spirally wound sheet steel 62), having a diameter larger than 15 feet (McDonald's spirally wound silo has a diameter of about 21 feet).

The appellant argues that claim 1 is not anticipated since McDonald's silo is not a spirally formed pipe. We do not agree. As set forth above, the broadest reasonable meaning of the word "pipe" in its ordinary usage as it would be understood by one of ordinary skill in the art, taking into account the enlightenment afforded by the written description contained in the appellant's specification is "a tubular or cylindrical object, part or passage." Since McDonald's spirally wound silo is a tubular or cylindrical object, part or passage, we find that the claimed spirally formed pipe is readable on

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<sup>2</sup> A silo having a circumference of sixty-six feet would have a diameter of about 21 feet.

McDonald's spirally wound silo 10 formed by spirally winding a strip of sheet steel 62 into a tubular shape.

For the reasons set forth above claim 1 is anticipated by McDonald. Accordingly, the decision of the examiner to reject claim 1 under 35 U.S.C. § 102(b) as being anticipated by McDonald is affirmed.

Claims 2 and 4 which depend from claim 1 have not been separately argued by appellant as required in 37 CFR § 1.192(c)(7) and (8)(iv). Accordingly, we have determined that these claims must be treated as falling with independent claim 1. ~~See~~ In re Nelson, supra. Thus, it follows that the decision of the examiner to reject claims 2 and 4 under 35 U.S.C. § 102(b) as being anticipated by McDonald is also affirmed.

#### **The anticipation rejection based on Steuber**

We sustain the rejection of claims 1, 2 and 4 under 35 U.S.C. § 102(b) as being anticipated by Steuber.

Steuber's invention relates to the construction of large diameter storage tanks. Referring to Figure 1, a plurality of large diameter storage tanks are constructed at a building site 10. Each of the tanks is fabricated from a continuous strip of material,

such as strip steel, supplied from a reel 12. Each storage tank may be constructed in accordance with the procedures disclosed in the McFatter patent, as well as the McDonald and Reed patents. Referring now to Figure 2, strip 12a of steel, for example, is supplied to the building site 10 and is supported by support roller assemblies 22. The support roller assemblies support the strip for production of a large diameter storage tank structure 24 that includes a plurality of helical convolutions 24a extending upwardly, with the edge portions of adjacent convolutions being secured together, such as by welding at a welding station 26. When a storage tank structure of sufficient size has been completed, that structure is severed along a severing plane 30 which is substantially horizontal and located above the support roller assemblies 22, such as by cutting of the storage tank. The storage tank includes a top structure 28. Steuber teaches (column 4, lines 13-16) that the typical size of a storage tank is 31 feet in diameter, with a circumference of about 98 feet and that sheet steel approximately 1/4 inch thick and 4 feet in width may be employed.

In our view, claim 1 is readable on Steuber as follows: A spirally formed pipe (Steuber's storage tank 24 that includes a plurality of helical convolutions 24a extending upwardly), comprising an elongated strip of ductile material formed into joined, adjacent helical convolutions (Steuber's plurality of helical convolutions 24a are formed from the

strip 12a of steel), having a diameter larger than 15 feet (Steuber's storage tank 24 has a diameter of about 31 feet).

The appellant argues that claim 1 is not anticipated since Steuber's storage tank is not a spirally formed pipe. We do not agree. As set forth above, the broadest reasonable meaning of the word "pipe" in its ordinary usage as it would be understood by one of ordinary skill in the art, taking into account the enlightenment afforded by the written description contained in the appellant's specification is "a tubular or cylindrical object, part or passage." Since Steuber's spirally wound storage tank is a tubular or cylindrical object, part or passage, we find that the claimed spirally formed pipe is readable on Steuber's storage tank 24 that includes a plurality of helical convolutions 24a extending upwardly of strip steel.

For the reasons set forth above claim 1 is anticipated by Steuber. Accordingly, the decision of the examiner to reject claim 1 under 35 U.S.C. § 102(b) as being anticipated by Steuber is affirmed.

Claims 2 and 4 which depend from claim 1 have not been separately argued by appellant as required in 37 CFR § 1.192(c)(7) and (8)(iv). Accordingly, we have determined that these claims must be treated as falling with independent claim 1. See

In re Nelson, supra. Thus, it follows that the decision of the examiner to reject claims 2 and 4 under 35 U.S.C. § 102(b) as being anticipated by Steuber is also affirmed.

**The obviousness rejection of claim 3**

We sustain the rejection of claim 3 under 35 U.S.C. § 103 as being unpatentable over either Reed, McDonald or Steuber in view of Handbook.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a case of obviousness. See In re Rilckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A case of obviousness is established by presenting evidence that would have led one of ordinary skill in the art to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) and In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Evidence of a suggestion, teaching, or motivation to modify a reference may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, see Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1588, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), Para-Ordinance Mfg., Inc. v. SGS Importers Int'l, Inc., 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), cert. denied, 117 S. Ct. 80 (1996), although

"the suggestion more often comes from the teachings of the pertinent references," In re Rouffet, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

Claim 3 adds to parent claim 2<sup>3</sup> the further limitation that "said wall may be smooth, corrugated, or profiled with increased dimensional proportions as pipe size is increased."

In this rejection, the examiner ascertained that the patents to Reed, McDonald and Steuber fail to disclose an increase in dimensional proportions as pipe size is increased. The examiner then determined that Handbook clearly discloses on page 40 that dimensional proportions such as corrugations are increased as pipe diameter sizes are increased in spirally formed pipes. The examiner next concluded that:

[I]t would have been obvious to modify dimensional proportions of the pipes in Reed, McDonald, and Steuber to be increased as pipe diameter increases as suggested by the Handbook, as such would be beneficial to use appropriate dimensions for the size of the pipe being made to provide adequate strength by inherently reducing the number of seams and reduce costs.

In our view, the description of corrugations found on page 40 of the Handbook provides no teaching, suggestion or motivation to have altered the non-corrugated silos

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<sup>3</sup> Claim 2 reads as follows: "The pipe according to claim 1 further comprising that said convolutions form the wall of said pipe, and that said wall may be smooth, corrugated, or profiled."

or storage tanks of Reed, McDonald and Steuber in any manner. Nevertheless, since claim 3 recites only that the wall may be smooth, corrugated, or profiled with increased dimensional proportions as pipe size is increased, it is our opinion that claim 3 is readable on Reed, McDonald and Steuber. While this is, in effect, a holding that claim 3 is anticipated by Reed, McDonald or Steuber under 35 U.S.C. § 102(b), affirmance of the 35 U.S.C. § 103 rejection is appropriate, since it is well settled that a disclosure that anticipates under 35 U.S.C. § 102 also renders the claim unpatentable under 35 U.S.C. § 103, for "anticipation is the epitome of obviousness." Jones v. Hardy, 727 F.2d 1524, 1529, 220 USPQ 1021, 1025 (Fed. Cir. 1984). See also In re Fracalossi, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982); In re Pearson, 494 F.2d 1399, 1402, 181 USPQ 641, 644 (CCPA 1974).

For the reasons set forth above, the decision of the examiner to reject claim 3 under 35 U.S.C. § 103 as being unpatentable over either Reed, McDonald or Steuber in view of Handbook is affirmed.

**The obviousness rejection based on PRD and McFatter.**

We sustain the rejection of claims 1, 2 and 4 stand rejected under 35 U.S.C. § 103 as being unpatentable over PRD in view of McFatter.



PRD teaches a manufacturing system to produce a corrugated metal unit in one continuous process up to 75 feet long and 15 feet in diameter. The corrugated metal unit can be used for housing, tubes for irrigation pipes, bridges, drainage, sewers, culverts and concrete voids.

McFatter's invention relates to the production of storage tanks. It is particularly directed to the production of large diameter storage tanks constructed from strip metal wound upwardly in a helical path. McFatter teaches (column 7, lines 25-28) that a typical size is thirty-one feet in diameter, with a circumference of about ninety-eight feet and that sheet steel approximately one quarter inch thick and four feet in width may be employed.

In this rejection of claim 1, the examiner ascertained that PRD discloses all of the recited structure with the exception of the diameter of the pipe being larger than 15 feet.<sup>4</sup> The examiner then stated that the patent to McFatter discloses an apparatus that is used to create a spirally formed tubular section in a continuous process having a diameter of 31 feet. The examiner next concluded that it would have been obvious to one skilled in the art to modify the PRD pipe to have a diameter larger than 15 feet as

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<sup>4</sup> The appellant admits (brief, p. 25) that PRD "anticipates spirally formed pipes up to 15 feet in diameter for building houses."

suggested by McFatter if a larger diameter pipe is needed and simply to increase useful volume.

The appellant argues that there is no suggestion in the applied prior art to combine their teachings to arrive at the subject matter of claim 1. We do not agree.

The Federal Circuit has held that a prima facie case of obviousness exists when the claimed range and the prior art range do not overlap but are close enough such that one skilled in the art would have expected them to have the same properties. See Titanium Metals Corp. v. Banner, 778 F.2d 775, 783, 227 USPQ 773, 779 (Fed. Cir. 1985). In light of that case law, we conclude that a prima facie case of obviousness was made out in this rejection. In that regard, in view of manufacturing tolerances as well as the teachings of McFatter we conclude that it would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify the PRD pipe to have a diameter larger than 15 feet (e.g., 15.000001 feet). The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation. Moreover, claim 1 reads on McFatter in exactly the same manner as claim 1 was readable on Reed, McDonald and Steuber as set forth above. Accordingly, claim 1 is anticipated by McFatter and a disclosure that anticipates under 35 U.S.C. § 102 also renders the claim unpatentable under 35 U.S.C. § 103.

For the reasons set forth above claim 1 is anticipated by McFatter and obvious from the teachings of PRD and McFatter. Accordingly, the decision of the examiner to reject claim 1 under 35 U.S.C. § 103 as being unpatentable over PRD in view of McFatter is affirmed.

Claims 2 and 4 which depend from claim 1 have not been separately argued by appellant as required in 37 CFR § 1.192(c)(7) and (8)(iv). Accordingly, we have determined that these claims must be treated as falling with independent claim 1. See In re Nielson, supra. Thus, it follows that the decision of the examiner to reject claims 2 and 4 under 35 U.S.C. § 103 as being unpatentable over PRD in view of McFatter is also affirmed.

**The obviousness rejections based on PRD and Handbook**

We sustain the rejection of claims 5 to 9 under 35 U.S.C. § 103 as being unpatentable over PRD in view of Handbook. We likewise sustain the rejection of claims 5 to 9 under 35 U.S.C. § 103 as being unpatentable over Handbook in view of PRD.

In the first rejection of claim 9 based on the teachings of PRD and Handbook, the examiner (1) ascertained that PRD discloses all of the recited structure including a

pipe that has a diameter larger than 144 inches, however, does not disclose reshaping the pipe into an arch shape; (2) found that Handbook discloses that spirally formed pipes used for culverts and drainage can be reshaped into arch shapes if needed; and (3) concluded that it would have been obvious to one skilled in the art to modify the cylindrically shaped drainage pipe, sewer pipes, or culverts of PRD by reshaping them into arch shapes as needed for a particular application as suggested by Handbook.

In the second rejection of claim 9 based on the teachings of PRD and Handbook, the examiner (1) ascertained that Handbook discloses all of the recited structure with the exception of explicitly stating that the spiral formed pipe can exceed 144 inches in diameter before reshaping into arches; and (2) concluded that it would have been obvious to one skilled in the art to modify the dimensions of Handbook's pipe used for reshaping into an arch by using a 15 foot diameter spirally formed pipe as suggested by PRD to meet applications requiring larger diameter pipes.

The appellant argues that there is no suggestion in the applied prior art to combine their teachings to arrive at the subject matter of claim 9. We do not agree. In our view, PRD's teaching of a 15 foot diameter spirally formed pipe usable as an irrigation pipe, a drainage tube, a sewer, or a culvert combined with Handbook's teaching of reshaping spirally formed pipes (less than 12 foot diameter) used for

culverts and drainage into an arch shape would have made it obvious at the time the invention was made to a person of ordinary skill in the art to reshape PRD's 15 foot diameter spirally formed pipe into an arch shape for use as taught by Handbook. The motivation for this change comes not from the appellant's disclosure but from the clear teachings of the applied prior art. In that regard, Handbook teaches using either (1) round spirally formed pipes, or (2) arch shaped spirally formed pipes for use in culverts and drainage. This teaching of two alternative cross-sections provides the necessary motivation for an artisan to have modified the round spirally formed pipe of PRD into an arch shape. In this regard, it must be borne in mind that where two known alternatives are interchangeable for their desired function, an express suggestion of the desirability of the substitution of one for the other is not needed to render such substitution obvious. See In re Fout, 675 F.2d 297, 301, 213 USPQ 532, 536 (CCPA 1982); In re Siebentritt, 372 F.2d 566, 568, 152 USPQ 618, 619 (CCPA 1967).

For the reasons set forth above, claim 9 is obvious from the teachings of PRD and Handbook. Accordingly, the decisions of the examiner to reject claim 9 under 35 U.S.C. § 103 as being unpatentable over PRD in view of Handbook and Handbook in view of PRD are affirmed.

The decisions of the examiner to reject claims 5 to 8 under 35 U.S.C. § 103 as being unpatentable over PRD in view of Handbook and Handbook in view of PRD are also affirmed since the appellant has not argued separately the patentability of any particular claim apart from the others, thus allowing claims 5 to 8 to fall with claim 9 (see In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978); and 37 CFR § 1.192(c)(7) and (8)(iv)).

**The obviousness rejection based on Handbook and McFatter**

We will not sustain the rejection of claims 1 to 9 under 35 U.S.C. § 103 as being unpatentable over Handbook in view of McFatter.

In this rejection, the examiner ascertained that Handbook discloses all of the recited structure with the exception of explicitly reciting that spiral formed pipes can have diameters larger than 15 feet. The examiner then stated:

In order to provide more useful volume, it would have been obvious to one skilled in the art to make spirally formed pipes having diameters larger than 15 feet as suggested by McFatter which teaches that pipes can be formed by spiral joining methods that can exceed 15 feet in diameter to meet the needs of the user.

The appellant argues that it would have not have been obvious at the time the invention was made to a person of ordinary skill in the art to have modified Handbook's spirally formed pipe to have a larger diameter based on the teachings of McFatter. We agree. In our view, McFatter's teaching a spirally formed silo having a diameter of 31 feet provides no teaching, suggestion or motivation for an artisan to increase the diameter of the spirally formed pipes taught by Handbook. In our view, the only suggestion for modifying Handbook in the manner proposed by the examiner to arrive at the claimed invention stems from hindsight knowledge derived from the appellant's own disclosure. The use of such hindsight knowledge to support an obviousness rejection under 35 U.S.C. § 103 is, of course, impermissible. See, for example, W. L. Gore and Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

For the reasons set forth above, the decision of the examiner to reject claims 1 to 9 under 35 U.S.C. § 103 as being unpatentable over Handbook in view of McFatter is reversed.

**CONCLUSION**

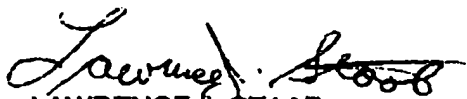
To summarize, the decision of the examiner to reject claims 1 and 2 under 35 U.S.C. § 102(b) as being anticipated by Reed is affirmed; the decision of the examiner to reject claims 1, 2 and 4 under 35 U.S.C. § 102(b) as being anticipated by McDonald is affirmed; the decision of the examiner to reject claims 1, 2 and 4 under 35 U.S.C. § 102(b) as being anticipated by Steuber is affirmed; the decision of the examiner to reject claim 3 under 35 U.S.C. § 103 as being unpatentable over either Reed, McDonald or Steuber in view of Handbook is affirmed; the decision of the examiner to reject claims 1, 2 and 4 under 35 U.S.C. § 103 as being unpatentable over PRD in view of McFatter is affirmed; the decision of the examiner to reject claims 5 to 9 under 35 U.S.C. § 103 as being unpatentable over PRD in view of Handbook is affirmed; the decision of the examiner to reject claims 5 to 9 under 35 U.S.C. § 103 as being unpatentable over Handbook in view of PRD is affirmed; and the decision of the examiner to reject claims 1 to 9 under 35 U.S.C. § 103 as being unpatentable over Handbook in view of McFatter is reversed.

Since at least one rejection of each of the appealed claims has been affirmed, the decision of the examiner is affirmed.

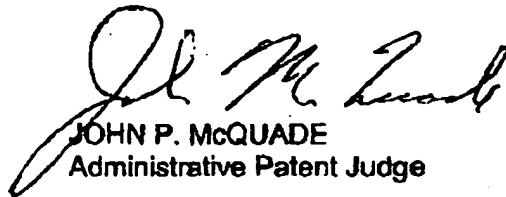


No time period for taking any subsequent action in connection with this appeal  
may be extended under 37 CFR § 1.136(a).

AFFIRMED



LAWRENCE J. STAAB  
Administrative Patent Judge



JOHN P. McQUADE  
Administrative Patent Judge



JEFFREY V. NASE  
Administrative Patent Judge

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